

IN THE CLAIMS:

1 1. (Original) A method of producing a gas discharge panel, comprising:
2 an envelope forming step for forming an envelope by providing over a first plate a
3 second plate so that the second plate faces a main surface of the first plate, on which partition
4 walls for partitioning light emitting cells have been formed;
5 a sealing step for sealing the envelope with a sealant along outer edges of the first
6 and second plates;
7 an exhaust step for exhausting gas from the envelope; and
8 a filling step for filling the envelope with a discharge gas, wherein
9 the exhaust step includes:
10 a substep for evacuating the envelope;
11 a substep for filling the envelope with a cleaning gas that includes as a constituent
12 a gas that substantially causes no impurity in the discharge gas; and
13 a substep for re-evacuating the envelope.

1 2. (Cancelled)

1 3. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the sealant is disposed between the first and second plates, the entire envelope is heated
3 at a temperature that is no lower than one of a softening point and a melting point of the sealant
4 while a pressure in the envelope is set lower than a pressure outside of the envelope, and the
5 envelope is cooled at the sealing step.

1 4. (Cancelled)

1 5. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein a step for inserting a getter into a container that is linked to an internal space of the
3 envelope is included between the sealing step and the exhaust step.

1 6. (Cancelled)

1 7. (Original) The gas discharge panel producing method according to Claim 3,
2 wherein a step for inserting a getter into a container that is linked to an internal space of the
3 envelope is included between the sealing step and the exhaust step.

1 8. (Cancelled)

1 9. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the entire envelope is heated at a temperature that is no higher than one of a softening
3 point and a melting point of the sealant at the exhaust step.

1 10. (Cancelled)

1 11. (Original) The gas discharge panel producing method according to Claim 3,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 12. (Cancelled)

1 13. (Original) The gas discharge panel producing method according to Claim 5,
2 wherein the entire envelope is heated at a temperature that is no higher than one of a softening
3 point and a melting point of the sealant at the exhaust step.

1 14. (Cancelled)

1 15. (Original) The gas discharge panel producing method according to Claim 7,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 16. (Cancelled)

1 17. (Original) The gas discharge panel producing method according to Claim 3,
2 wherein the entire envelope is cooled to a temperature that is higher than room temperature and
3 no higher than one of the softening point and the melting point of the sealant at the sealing step.

1 18. (Cancelled)

1 19. (Original) The gas discharge panel producing method according to Claim 11,
2 wherein the entire envelope is cooled to a temperature that is higher than room temperature and
3 no higher than one of the softening point and the melting point of the sealant at the sealing step.

1 20. (Cancelled)

1 21. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the sealing step includes:

3 a substep for disposing the sealant between the first and second plates, and
4 heating the entire envelope to a temperature that is no lower than one of a softening point and a
5 melting point of the sealant while a dry gas is circulated through the envelope; and

6 a substep for heating the entire envelope at a temperature that is no lower than one
7 of the softening point and the melting point of the sealant while a pressure in the envelope is set
8 to be lower than a pressure outside of the envelope, and cooling the envelope.

1 22. (Cancelled)

1 23. (Original) The gas discharge panel producing method according to Claim 21,
2 wherein a step for inserting a getter into a container that is linked to an internal space of the
3 envelope is included between the sealing step and the exhaust step.

1 24. (Cancelled)

1 25. (Original) The gas discharge panel producing method according to Claim 21,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 26. (Cancelled)

1 27. (Original) The gas discharge panel producing method according to Claim 23,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 28. (Cancelled)

1 29. (Original) The gas discharge panel producing method according to Claim 21,
2 wherein the entire envelope is cooled to a temperature that is higher than a room temperature and
3 no higher than one of the softening point and the melting point of the sealant at the sealing step.

1 30. (Cancelled)

1 31. (Original) The gas discharge panel producing method according to Claim 25,
2 wherein the entire envelope is cooled to a temperature that is higher than a room temperature and
3 no higher than one of the softening point and the melting point of the sealant at the sealing step.

1 32. (Cancelled)

1 33. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the sealant is disposed between the first and second plates, sealed edges of the first and
3 second plates are heated at a temperature that is no lower than one of a softening point and a
4 melting point of the sealant while a pressure in the envelope is set lower than a pressure outside
5 of the envelope, and the envelope is cooled at the sealing step.

1 34. (Cancelled)

1 35. (Original) The gas discharge panel producing method according to Claim 33,
2 wherein a step for inserting a getter into a container that is linked to an internal space of the
3 envelope is included between the sealing step and the exhaust step.

1 36. (Cancelled)

1 37. (Original) The gas discharge panel producing method according to Claim 33,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 38. (Cancelled)

1 39. (Original) The gas discharge panel producing method according to Claim 35,
2 wherein the entire envelope is heated at a temperature that is no higher than one of the softening
3 point and the melting point of the sealant at the exhaust step.

1 40. (Cancelled)

1 41. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the cleaning gas is the discharge gas.

1 42. (Original) The gas discharge panel producing method according to Claim 41,
2 wherein the discharge gas is a noble gas.

1 43. (Original) The gas discharge panel producing method according to Claim 42,
2 wherein the noble gas includes at least one of helium, neon, argon, and xenon.

1 44. (Original) The gas discharge panel producing method according to Claim 1,
2 wherein the light emitting cells are formed by positioning a first group of parallel electrodes on
3 the first plate orthogonally to a second group of parallel electrodes on the second plate with a
4 distance between the first and second electrode groups.

1 45. (Original) The gas discharge panel producing method according to Claim 41,
2 wherein the light emitting cells are formed by positioning a first group of parallel electrodes on
3 the first plate orthogonally to a second group of parallel electrodes on the second plate with a
4 distance between the first and second electrode groups.

1 46. (Original) The gas discharge panel producing method according to Claim 42,
2 wherein the light emitting cells are formed by intersecting a first group of electrodes that have
3 been disposed on the first plate in parallel and a second group of electrodes that have been
4 disposed on the second plate in parallel with a distance between the first and second groups.

1 47. (Original) The gas discharge panel producing method according to Claim 43,
2 wherein the light emitting cells are formed by intersecting a first group of electrodes that have
3 been disposed on the first plate in parallel and a second group of electrodes that have been
4 disposed on the second plate in parallel with a distance between the first and second groups.

1 48-49. (Cancelled)

1 50. (New) The gas discharge panel producing method according to Claim 1, wherein
2 the substep for filling the envelope with the cleaning gas includes a constituent gas that
3 substantially causes no impurity in the discharge gas, and the substep for re-evacuating the
4 envelope are repeated in the exhaust step.

1 51. (New) The gas discharge panel producing method according to Claim 3 wherein
2 the lower pressure within the envelope relative to a higher exterior pressure outside of the
3 envelope provides a force for drawing the first plate and second plate together to assist in sealing
4 the envelope.